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Article

*21 THE HAZARDS OF TAXING CONTAMINATED PROPERTIES: OWNERS BEWARE!

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Owners of properties contaminated by hazardous substances are probably paying too much in property taxes. The reasons for this result are varied and include difficulties in valuation, as well as taxation policy issues. Since the early 1990s, the law and science surrounding this topic have begun to develop; and, while there are not yet definitive answers, a few trends are beginning to emerge.

Environmental due diligence and response actions

Beginning with the 1986 amendments to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), [FN1] environmental due diligence (in the form of Phase I Environmental Site Assessments or ESAs) has become a fixture in all commercial real estate transactions. Failure to conduct this research means the purchaser will be unable to qualify for the innocent landowner defense, one of the few escapes from CERCLA's statutory and regulatory framework of joint and several, retroactive, strict liability for contamination by hazardous substances.

Discovery of contamination by the engineers conducting the ESA might result in remediation of the problem under or outside the auspices of state or federal regulatory authorities (more likely if the time-frame is relatively short), indemnities from the seller or other potentially responsible parties either with or without escrowed amounts to fund the clean-up activities (usual for post-closing response actions) or termination of the transaction (for seemingly insurmountable problems). Given the concentrated effort expended on fashioning the remedy to the underlying problem, few parties in these transactions focus on whether the property taxes have been appropriately adjusted to *22 account for the reduced value resulting from the contamination.

Valuation of contaminated properties

Property appraisers have historically utilized one of the three traditional valuation methodologies. In general and depending on the type of property, an assessor might use the cost approach, income method and/or market/comparable sales. In the context of replacement or liquidation, a cost approach may seem most appropriate.

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The income method yields an accurate valuation of a going concern. Potential purchasers and lenders are probably most comfortable with the review of comparable market sales. However, none of these methods result in accurate valuations of contaminated properties since there are many factors depressing values, which none of these approaches takes into account. These include the cost to cure the contamination, which in turn includes site investigation costs, remediation costs, monitoring costs and legal/engineering costs. [FN2] Further, stigma, which may be defined as market perception of undesirability resulting from contamination on site or in the nearby vicinity, further depresses values. [FN3] Stigma may be temporary or permanent and includes such factors as inconvenience/disruption of business activities during remediation, adverse change in regulations, high vacancy or lower rents from tenants, difficulty in obtaining mortgage financing, exposure to third-party claims or additional insurance costs, increased future marketing time and costs to resell [FN4] and perceptual cues (e.g., noxious odors, the presence of workers in "moon suits" [FN5] or notoriety [FN6]). The International Association of Assessing Officers (IAAO) has recognized the problem and attempted to address the issue by adopting a "value in use" methodology. [FN7] Due to the tax policy issues involved, even this approach falls short of an accurate valuation method.

With a minimal amount of reflection, one can easily imagine a scenario where the cost to cure, either with or without considering stigma, exceeds the market value of the property if not contaminated regardless of the method of calculation. Indeed, the horror stories from across the nation abound with this very archetype. One might also understand the reluctance of the taxing authorities to permit such a result and their view that this would amount to a tax exemption not warranted by state constitutions, statutes and regulations. In addition, if the property is income producing and, therefore, consuming municipal services, why should the owner enjoy any reduction in its tax burden? Finally, if the owners have received assistance in conducting clean-up operations, whether in the form of indemnities, public subsidies or private funds, should that assistance be considered when calculating their tax liability? A few cases are illustrative of how the various state courts and legislatures have dealt with these problems.

Mola Development Corp. v. Orange County Assessment Appeals Board

In December 1987, Mola purchased more than 20 acres of prime, but vacant, real estate in the City of Irvine. The transaction was part of the purchase of a much larger tract from Prudential. As a result of environmental due diligence, Mola knew the property was riddled with toxic waste from a former Beckman Instruments facility, but agreed to pay \$46 million with the understanding that Prudential and Beckman would undertake the remediation. Retesting of the soil and groundwater revealed that the clean-up efforts had been unsuccessful and that total remediation would cost an additional \$16.7 million over a 10-year period. Beckman agreed to pay approximately \$10 million and Prudential agreed to pay \$2.5 million, which would have left Mola on the hook for roughly \$4.2 million. However, Prudential ultimately made "some kind of arrangement with Mola" and took the property back. As a result, Mola never paid any remediation costs. [FN8]

Orange County assessed the property at \$39.4 million for 1990 and \$41 million for 1991. Mola appealed and argued that \$16.7 million in clean-up costs should be deducted from the valuations. The Assessment Appeals Board revalued the property at \$33.6 million, but reasoned that since Prudential and Beckman were *23 obligated to pay \$12.5 million of the total clean-up liability of \$16.7 million, Mola was only entitled to a deduction equal to the present value of \$3.2 million, its pro rata share of the remediation costs. Mola sued in Superior Court for a refund of taxes paid and the court remanded, ruling that the board should have deducted the entire \$16.7 million.

The Fourth Appellate District, Division Three of the Court of Appeals of the State of California, held that it was inappropriate to add back in to valuations the amount of any third-party contributions. The court made some important points in reaching this result. First, the owner need not be "innocent" as a prerequisite for property tax reductions. The assessor had complained that reducing the valuation had the effect of forcing the taxpayers of Orange County to assume that portion of the liability costs that would otherwise be paid by Prudential and Beckman. Moreover, the assessor noted that Mola had yet to pay "one dime" toward clean-up costs. Noting that this argument had previously been rejected, [FN9] the court stated that "The dispositive question is ... not who has the liability ..., but whether, and to what extent, the property value was affected by the contamination" (emphasis in original).

Second, the court recognized that accounting for third-party indemnities or financial contributions in tax valuations is analogous to the taxing of intangibles interrelated with the real property, the classic example of which is the liquor

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license. [FN10] Although a liquor license may not be transferable with the real estate, its very existence with respect to a specific location enhances value. The court expounded that it makes no difference to the buyer whether the seller alone is obligated to perform the clean-up or the seller and some third parties must pay the costs. [FN11] The court analogized to the situation where the improvements burn down on the day just prior to tax lien date. The buyer of the now-vacant lot has no interest in whether the seller is entitled to insurance proceeds to cover the loss.

The issue of value reductions as a result of stigma was not before the Mola court, however, its negative effect was mentioned.

Dealers Manufacturing Co. vs. County of Anoka

The Minnesota Supreme Court handed down its decision in the Dealers case in August 2000 and stigma was squarely at issue. It is difficult to understand the nature of this decision without some review of earlier case law and legislative activity.

The concept of stigma was applied by the Minnesota Tax Court in *Westling v. County of Mille Lacs*, Minn., Tax Ct. File No. C5-92-341 and C7-92-342, Feb. 10, 1993, to reduce the value of an operating industrial property to \$100. This case subsequently wound its way up the appellate ladder several times. *Westling v. County of Mille Lacs*, 512 N.W.2d 863 (Minn. 1994) (aka Westling I), reversed the decision of the tax court that the property had a nominal value of \$100 because it was unmarketable and remanded the case for valuation based on traditional appraisal techniques appropriately modified to account for the effects of environmental contamination. *Westling v. County of Mille Lacs*, 531 N.W.2d 848 (Minn. 1995) (aka Westling II), affirmed the tax court decision without published opinion. *Westling v. County of Mille Lacs*, 543 N.W.2d 91 (Minn. 1996) (aka Westling III), affirmed the tax court decision reducing the market value to zero based on the cost of cleaning up the site and a stigma discount.

Shortly after the decision in Westling I, the legislature enacted a contamination tax. [FN12] Clearly, the purpose of the legislation was to recoup tax revenues lost on account of reduced valuations of contaminated properties. The framework constructed to achieve this result consisted of a tax on the contamination value, defined as the amount of market value reduction that results from the presence of contaminants, such reduction not to exceed the cost of reasonable response actions (emphasis by authors). Hence, *24 owners who implemented response actions would see their contamination tax liability reduced to zero, thereby encouraging remediation in addition to recouping lost revenues. The constitutionality of the tax was upheld in the Westling IV decision. [FN13]

The subject property in the Dealers case was a manufacturing plant placed on the state superfund list on account of soil and groundwater contamination from solvent usage. Estimated clean-up costs were \$560,000, of which amount Dealers had already spent \$350,000. Dealers' expert appraiser estimated stigma devaluation in excess of \$500,000. The county had assessed the 1997 market value at \$1,336,600. Dealers filed a petition in the tax court challenging the valuation and the county responded that Minn. Stat. § 270.91, et seq. limited the reductions in market value resulting from contamination, including the stigma factor, to the reasonable cost of a response action plan. The tax court granted Dealers' motion for partial summary judgment and the county appealed.

The Minnesota Supreme Court affirmed the tax court decision in a well-reasoned, cogent opinion. Their analysis pointed out that stigma was nowhere mentioned in the tax statute. Although the concept does appear in the legislative history, it is only mentioned in passing. No one argued whether the statute should cover stigma discounts. Finally the court noted that including stigma in the definition of contamination value would lead to the result that the discount could not exceed the reasonable cost of clean-up. That would be absurd because the value of property with on-site contamination could not be discounted more than the cost of clean-up, while unlimited stigma discounts would apply to property with off-site contamination. The legislature could not have intended such a result without any specific mention of stigma.

Conclusion

Owners of contaminated properties may take heart from the decisions to date. It seems clear that the proper valuation formula is $MV_{uc} - CC_{pv} - SD = MV_c$, where MV_{uc} is market value, if uncontaminated, CC_{pv} is present value of cost to cure, SD is stigma discount and MV_c is market value, if clean. Further, innocence is not required to

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qualify for tax reductions and the availability of assistance from third parties should not affect the valuation of any particular property. Owners of contaminated properties should keep these developments in mind when reviewing their tax bills and reassessments.

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[FN2]. **Byron Taylor is a licensed environmental engineer and real estate broker.** His practice focuses singularly on real estate issues that involve environmentally impacted properties.

[FN3]. **Andy Raines is a certified public accountant and a principal at Stokes, Bartholomew, Evans & Petree, P.A., where he co-chairs the firm's property tax group.**

[FN1]. 42 U.S.C. § 9601 et seq.

[FN2]. See, Roddewig, Richard J., MAI, "Adjusting Environmental Case Study Comparables by Using an Environmental Risk Scoring System," *The Appraisal Journal* (October 2000): 371-374.

[FN3]. *Id.*

[FN4]. *Id.*

[FN5]. Thomas, Karina M., & Clayton, David B., "Challenging Valuations of Contaminated Property," *26 Colo. Law 71-74* (April 1997).

[FN6]. One need only hear the words "Love Canal" or "Chernobyl" to experience an immediate negative reaction.

[FN7]. See Carver, Robert P., & Crowell, Anthony W., "Toxic Tax Assessments: The Ad Valorem Taxation of Contaminated Property," *Real Estate Issues* (Fall 1999) 10-19.

[FN8]. 80 Cal.App.4th 309, 95 Cal Rptr.2d 546 (2000).

[FN9]. Firestone Tire & Rubber v. County of Monterey, 223 Cal.App.3d 382 (1990), Inmar Associates Inc. v. Borough of Carlstadt, 549 A.2d 38 (N.J. 1988) and Reliable Electronic v. Board of Assessors, 573 N.E.2d 959 (Mass. 1991).

[FN10]. Citing Roehm v. County of Orange, 32 Cal.2d 280 (1948), noting that unlisted intangibles may not be taxed as such, although their existence may have an effect on value.

[FN11]. Citing Sweepster Inc. v. Scio Tp., 571 N.W.2d 553 (Mich.App. 1997).

[FN12]. Minn. Stat. § 270.91, et seq. (Hearings on the bill were held on March 26, 1993).

[FN13]. Westling v. County of Mille Lacs, 581 N.W.2d 815 (1998) (aka Westling IV).

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Motions, Pleadings and Filings

Only the Westlaw citation is currently available.

United States District Court,
E.D. Wisconsin.
Annette NOSKOWIAK, Plaintiff,
v.
BOBST SA, Bobst Group USA, Inc., ABC Insurance
Co., XYZ Company(s), Defendants,
and
WAUSAU INSURANCE CO. (Subrogated
Defendant/Misaligned Party).
No. 04-C-0642.

Sept. 2, 2005.

Daniel J. Vaccaro, Nathaniel Cade, Jr., Timothy M. Hansen, Michael Best & Friedrich LLP, Milwaukee, WI, for Plaintiff.

Maureen Hegarty Kanter, Beth J. Kushner, Von Briesen & Roper SC, Milwaukee, WI, for Defendants.

DECISION AND ORDERRANDA, Chief J.

*1 On April 23, 2004, Annette Noskowiak ("Noskowiak") filed a complaint in the Circuit Court of Washington County, Wisconsin, in which she sought to impose liability upon the Defendants for defective machine design and breach of duty resulting in an injury to, and partial amputation of, Noskowiak's right hand. On July 2, 2004, Bobst Group USA, Inc. removed that action to this Court. On May 16, 2005 the Defendants filed a motion to exclude the testimony of Noskowiak's expert witness, Michael Studney ("Studney"). An expedited, non-dispositive motion was subsequently filed on June 14, 2005, in which the Defendants asked the Court to strike two reports submitted by Studney. The Court now proceeds to consider these pending motions.

I. BACKGROUND

Noskowiak suffered an injury while cleaning a Bobst-manufactured flexographic printing press (the "Flexo 200") at International Paper in Cedarburg,

Wisconsin. She was cleaning one of the press's rollers while it was operating, and her hand became ensnared by the rollers, resulting in injury to, and the ultimate amputation of, her little finger. The institution of this products liability action followed thereafter.

To bolster her case, Noskowiak has retained an expert, Studney, to offer the opinion that the Bobst press was defectively designed. (See Mem. of Law in Supp. of Def.'s Mot. in Limine to Exclude Testimony of M. Studney (hereinafter the "Supporting Memorandum") at 2.) The Defendants argue that Studney's opinions should be excluded because they fail to pass muster under the standards of reliability and relevance that regulate the admission of expert testimony.

In a scheduling order dated October 6, 2004, the Court set March 2, 2005 as the deadline for Noskowiak to disclose her experts and provide the Defendants with expert reports. [FN1] In a report dated February 6, 2005, Studney provided an "analysis" of the printing press involved in Noskowiak's injury. [FN2] The opening paragraph of Studney's February 6, 2005, Rule 26 report (his initial report) states:

FN1. Rule 26(a)(2)(B) of the Federal Rules of Civil procedure states:

Except as otherwise stipulated or directed by the court, this disclosure shall, with respect to a witness who is retained or specially employed to provide expert testimony in the case or whose duties as an employee of the party regularly involve giving expert testimony, be accompanied by a written report prepared and signed by the witness. The report shall contain a complete statement of all opinions to be expressed and the basis and reasons therefor; the data or other information considered by the witness in forming the opinions; any exhibits to be used as a summary of or support for the opinions; the qualifications of the witness, including a list of all publications authored by the witness within the preceding ten years; the compensation to be paid for the study and testimony; and a listing of any other cases in which the witness has testified as an expert at trial or by deposition within

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the preceding four years.
Fed.R.Civ.P. 26(a)(2)(B).

FN2. A copy of Studney's February 6, 2005 report, titled "Inspection of Printing Press for Noskowiak v. Bobst Flexo 200, Serial No. 0217 013 04, 1995" is appended as Exhibit C to the affidavit of Beth J. Kushner submitted in support of the Defendants' motion to exclude Studney's testimony.

In my opinion, Ms. Noskowiak's injury ... could have been prevented if the printing press was designed for more fail-safe operation. It is my opinion the Bobst press has a high safety risk in contrast with the benefits or utility obtained in its operation, according to risk-utility principles. The lack of proper guarding of this machine was a proximate cause of Ms. Noskowiak's injuries due to design defects, which were present when the machine left the manufacturer. In my opinion, it is unreasonably dangerous in its design for the reasons I describe below.

(Aff. of B. Kushner in Supp. of Defs.' Mot. in Limine to Exclude Testimony of M. Studney ["Kushner Aff."] Ex. C.) In the remainder of that report, Studney identifies those specific press features which were either defective or lacked proper safety mechanisms. In an addendum dated March 10, 2005, Studney sought to clarify what he "had assumed was 'intuitively obvious' regarding guarding and alternative designs for sensors...." This addendum consists of two points: (1) guarding-i.e., the use of shields or safety covers to protect users from danger-is a general safety practice in the industry, as evidenced by certain OSHA regulations and language in Bobst's Flexo 200 manual; and (2) various switches are available to detect whether a press's safety covers are closed.

*2 The Defendants, in their motion to exclude, launch a two-pronged attack against Studney, questioning both the relevance and the reliability of his opinions. The Defendants begin by arguing that his opinions are not relevant to the resolution of the present controversy. Three tributaries inform this argument. First, Studney erroneously utilized a risk/utility standard in reaching his conclusion that the Flexo 200 was unreasonably dangerous. Second, his opinions regarding the requirements of OSHA have no bearing on the salient issue of whether the Flexo 200 was unreasonably dangerous. Third, Studney offered a baseless opinion when he opined that the Flexo 200 should have contained a lockout device and emergency stop button on its rollers. In

any event, the Defendants continue, Studney's opinion regarding the lockout device is irrelevant since the rollers were turning so quickly that even such a stop button would not have prevented the injury.

Moving beyond the questionable relevance of his opinions, the Defendants also contest the reliability of Studney's proposed testimony. They claim that Studney fails to qualify as an expert under Rule 702 of the Federal Rules of Evidence. The Defendants point out that, though he has a degree in mechanical engineering, Studney has not worked with printing presses for twelve years; for the past decade he has worked with locomotives. (Supp. Mem. at 9.) And, he has never worked with flexographic presses. (*Id.*) The Defendants also state that Studney's resume is inaccurate, listing professional organizations of which he is currently not a member. (*Id.* at 9-10.)

Looking past his suspect credentials, the Defendants state that Studney's testimony also lacks any indicia of reliability. They support this claim by listing those items upon which Studney relied in formulating his opinions, including: talking to Noskowiak, looking at a "concept sketch" he drafted over a decade ago, looking at a "spare parts" kit he kept, printing information off of the internet, reviewing OSHA regulations, and reviewing a press operator's manual and some documents from Noskowiak's employer.

No less troubling, the Defendants allege that Studney's opinions are unreliable insofar as they are merely conclusory and lack any empirical basis. Studney did not perform any testing, have his opinions subjected to peer review, conduct any analysis of the rate of error of his opinions, nor determine if his conclusions would be accepted by the relevant scientific community. For example, Studney suggested improvements to the Flexo 200 related to an emergency stop button and nip guard. However, he never tested these proposed modifications and, therefore, could not determine the viability of his suggestions or their overall impact on the press and its processes. Studney also opined that there was no lockout for the press's rollers; however, such a lockout had been in place well before the accident in question occurred.

*3 Considering the absence of reliability and relevance, the Defendants claim that Studney's opinions will not assist a trier of fact because he utilized an incorrect legal standard and applied OSHA standards, which have no bearing on the present controversy. Similarly, the Defendants state

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that this Court should prohibit Studney's proffered opinion that a warning should have been in place on the press. The Defendants argue that Seventh Circuit law requires experts to draft those warnings that they believe would have been appropriate. Studney has not done this. [FN3]

FN3. This particular point-the failure of Studney to draft a warning-is not contested by Noskowiak. Noskowiak does point out that "the Standards [ANSI] fail to identify an acceptable warning as well." (Pl.'s Br. in Opp'n to Defs.' Mot. to Exclude the Expert Testimony of M. Studney at 16.)

Not surprisingly, Noskowiak does not agree with the Defendants' assessment of her expert and his opinions. First, Noskowiak states that the Defendants have misapplied the relevant legal standard in this case. The bulk of Noskowiak's responsive brief attempts to rebut the Defendants' claim that Studney's testimony and opinion are not reliable. Noskowiak points out that Studney's curriculum vitae clearly shows that he worked on printing presses, albeit over ten years ago. (Noskowiak states that there is no requirement that an expert be currently employed in the field of his/her expertise.) Next, Noskowiak states that, contrary to the Defendants' assertion, Studney is permitted to rely on his experience when formulating his opinions. Thus, the charge of speculative or unfounded opinions is not warranted.

Noskowiak argues that the Defendants place undue emphasis on the fact that Studney did not test his theory, establish rates of error, or show that his conclusions would be accepted in the relevant legal community. She asserts that the guideposts for assessing expert testimony, as set forth in Daubert v. Dow Pharm., Inc., 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993), are not mandatory. And, Noskowiak claims that Studney was not permitted to conduct further testing despite a request to do so, and, even if this were not the case, Daubert does not require testing. The remainder of Noskowiak's points related to the Daubert guideposts are readily summarized: peer review and acceptance by the relevant community are established by the harmony between Studney's opinions and those standards promulgated by the American National Standards Institute ("ANSI").

In the final analysis, Noskowiak maintains that Studney's testimony will assist the trier of fact by providing information about the technical workings of printers.

II. ANALYSIS

The admissibility of expert testimony is governed by Rule 702 of the Federal Rules of Evidence and Daubert v. Dow Pharm., Inc., 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993). Smith v. Ford Motor Co., 215 F.3d 713, 717-18 (7th Cir.2000). Rule 702 states:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

*4 Fed.R.Evid. 702. This rule requires the Court to ensure that "all scientific testimony or evidence admitted is not only relevant, but reliable." Daubert, 509 U.S. at 588. The Seventh Circuit has identified a two-step process for courts to discharge this "gate-keeping" function. Deimer v. Cincinnati Sub-Zero Prods., Inc., 58 F.3d 341, 344 (7th Cir.1994). First, the Court must assess whether the purported expert's testimony pertains to scientific knowledge. *Id.* (stating that inquiry must rule out "subjective belief or unsupported speculation"). Second, the Court should determine whether the expert's testimony will assist the trier of fact "in understanding the evidence or in determining a fact in issue." *Id.* The party seeking to offer expert testimony "has the burden of establishing that the pertinent admissibility requirements are met by a preponderance of the evidence." Fed.R.Evid. 702 advisory committee's note, 2000 Amendments ¶ 1 (interpreting Fed.R.Evid. 104(a)).

First, the Court addresses which legal standards govern the claims in this case. The Defendants state that Studney incorrectly utilized a risk/utility standard when conducting his analysis whereas the correct standard governing this controversy is "consumer expectation." (Supp. Mem. at 18.) They further argue that, under Wisconsin product liability law, the relevant question in this case is whether the Flexo 200 was defective and unreasonably dangerous. (Supp. Mem. at 6.) Noskowiak counters that the Defendants have misunderstood the "consumer expectation" standard, (Opp'n Br. at 7), and, in any event, if they think that Studney has "applied the wrong standard, cross-examination on

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that issue is available." (Opp'n. Br. at 7.) The applicable standard may affect any assessment of the relevance of Studney's opinions and, therefore, merits further examination.

The Court looks to Noskowiak's complaint to identify those claims she brings against the Defendants. That complaint, originally filed in Wisconsin circuit court, alleges claims for (1) defective design or strict product liability and (2) breach of duty or negligence-based liability. [FN4] (See Compl. ¶¶ 11, 15.) This Court, in *Komanekin v. Inland Truck Parts*, had occasion to differentiate these two theories of liability. 819 F.Supp. 802 (E.D.Wis.1993). While both types of claims require a party to demonstrate that a product was "unreasonably dangerous," the required showing under each theory differs. In strict liability theory, the question is not whether the manufacturer or seller should have designed the product differently, but rather whether the product, as designed, contained dangers that would not be apparent to the ordinary consumer. *Komanekin*, 819 F.Supp. at 808 (citing *Delvaux v. Ford Motor Co.*, 764 F.2d 469, 474 (7th Cir.1985); *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*, 69 Wis.2d 326, 230 N.W.2d 794, 798 (Wis.1975)). By contrast, the negligence theory of recovery hinges on "whether the seller could have come up with a less dangerous design." *Komanekin*, 819 F.Supp. at 808. Having identified the legal standards operative in this case, the Court assesses the parties' arguments.

FN4. These are also the two claims identified by the Defendants in a subsequently filed motion for summary judgment. (See Docket No. 69.)

*5 As a preliminary matter, the Court finds the question of the applicable legal theory to be relevant. First, the legal premise from which Studney was operating, e.g., risk/utility, may have colored the methodology or approach by which he arrived at his conclusions. An expert cannot testify to something that is not relevant to the present controversy. See *Deimer*, 58 F.3d at 344 (explaining that testimony must "fit" the issue to which the expert is testifying). Second, the Court disagrees with Noskowiak's contention that cross-examination is the proper remedy for curing her expert's purported application of the wrong legal standard when conducting his analysis. Testimony based on an incorrect legal standard may confuse the jury, and may be proscribed by the Court pursuant to Rule 403 of the Federal Rules of Evidence. Part of the Court's

gatekeeping function is to exclude largely irrelevant evidence. See Fed.R.Evid. 402. Put another way, while Studney is not required to opine on an ultimate issue in the case, see *Smith v. Ford Motor Co.*, 215 F.3d 713, 718 (7th Cir.2000), his testimony should not be a source of confusion by invoking a legal standard, which entails a different set of issues than those operative in the present controversy.

Drawing from these premises, Studney's reliance on OSHA standards is irrelevant and even casts the reliability of his opinion into doubt. The Court agrees with the Defendants that the standards articulated by OSHA are not relevant in the present case. The OSHA standards apply to employers, not to manufacturers. See *Porchia v. Design Equipment Co.*, 113 F.3d 877, 881 (8th Cir.1997); *Byrne v. Liquid Asphalt Sys. Inc.*, 238 F.Supp.2d 491, 493 (E.D.N.Y.2002) (excluding testimony that manufacturers violated OSHA and finding such testimony greatly prejudicial and minimally probative because OSHA does not apply to manufacturers). Studney's attempt, in his March 10, 2005 addendum to explain the presence of a "general safety practice" by referencing OSHA is legally incorrect and would likely mislead or confuse a trier of fact. Utilizing OSHA is not the only instance of Studney invoking an incorrect legal standard to show how he reached his conclusions.

The Court next inquires into the relevance of Studney's risk/utility methodology related to Noskowiak's claims. First, the Court considers Studney's opinions for purposes of Noskowiak's strict liability claim. In his February 6th report, Studney states that, employing a risk/utility methodology, he has identified various elements of the Flexo 200 that were defective or could have been made safer. As a result, Studney concludes that the Flexo 200 was "unreasonably dangerous in its design." In *Sumnicht v. Toyota Motor Sales, U.S.A., Inc.*, the Supreme Court of Wisconsin, adopted factors, identified by the Seventh Circuit, that may prove useful to plaintiffs attempting to establish that a product is defective and unreasonably dangerous:

*6 "1) [C]onformity of defendant's design to the practices of other manufacturers in its industry at the time of manufacture; 2) the open and obvious nature of the alleged danger; ... 3) the extent of the claimant's use of the very product alleged to have caused the injury and the period of time involved in such use by the claimant and others prior to the injury without any harmful incident ... 4) the ability of the manufacturer to eliminate danger without impairing the product's usefulness or making it

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unduly expensive; and 5) the relative likelihood of injury resulting from the product's present design." 121 Wis.2d 338, 360 N.W.2d 2, 17 (Wis.1985) (citing *Collins v. Ridge Tool Co.*, 520 F.2d 591, 594 (7th Cir.1975)). The *Sumnicht* Court also suggested that proof of alternate designs was not required under Wisconsin law related to products liability. See *Sumnicht*, 360 N.W.2d at 17. The Court further stated that "[t]he existence of a product's defective design that is unreasonably dangerous can be established through expert opinion testimony that was formed after an examination of the product. *Id.*

In a later case, the Supreme Court of Wisconsin clarified that the proffering of alternative designs is not directly germane to the prevailing standard of strict products liability under Wisconsin law. In *Green v. Smith Nephew AHP, Inc.*, the Court, while reiterating the prevailing standard in strict product liability cases, [FN5] clarified certain factors that may be relevant to "determining whether the ordinary consumer could anticipate and, hence, contemplate an alleged unreasonably dangerous defect." 245 Wis.2d 772, 629 N.W.2d 727, 740 (Wis.2001). The *Green* Court interpreted *Sumnicht* and clarified the role of those factors that may assist a trier of fact when considering the consumer expectation test. Relevant to this case, the *Green* court examined the *Sumnicht* factor that demonstrates "the ability of the manufacturer to eliminate danger without impairing the product's usefulness or making it unduly expensive." *Green*, 629 N.W.2d at 741 (citing *Sumnicht*, 360 Wis.2d at 2). The *Green* Court explained the proper place of this factor:

FN5. *Green* cites to the standard of strict liability as espoused in *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*, 69 Wis.2d 326, 230 N.W.2d 794 (1975). *Vincer* stated:

Thus, the test in Wisconsin of whether a product contains an unreasonably dangerous defect depends upon the reasonable expectations of the ordinary consumer concerning the characteristics of this type of product. If the average consumer would reasonably anticipate the dangerous condition of the product and fully appreciate the attendant risk of injury, it would not be unreasonably dangerous and defective. This is an objective test and not dependent upon the knowledge of the particular injured consumer. *Vincer*, 230 N.W.2d at 798.

This factor does not imply that in determining a

manufacturer's liability, a trier of fact must balance the danger that the manufacturer's product presents to consumers with the benefits or cost-value of the product.... To the contrary, this factor allows parties to show that due to the inherent nature or cost of a particular product, the ordinary consumer may expect, for example, the product to include more or less safety devices.

Green, 629 N.W.2d at 740-41. Furthermore, the *Green* Court stated that the *Sumnicht* factors were "not supplements to the consumer-contemplation test, to be considered in addition to consumer expectations. Nor are these factors independent legal tests." *Id.* at 740. Instead, "the *Sumnicht* factors are considerations that may be relevant to determining whether the ordinary consumer could anticipate and, hence, contemplate an alleged unreasonably dangerous defect." *Id.*

*7 Studney has employed a methodology (risk/utility) that relies upon an incorrect legal standard. Noskowiak has not explained how Studney's report will assist the trier of fact under Wisconsin's strict product liability standard. Studney's risk/utility analysis does not discuss consumer expectation. In fact, based on his reports, the guidepost of consumer expectation did not influence Studney's analysis at all. Of course, the Court is aware that, at least on the face of the reports, it is dubious that Studney even undertook any type of rigorous risk/benefit analysis. Rather, it appears as though he simply attempted to identify features that could be improved to make the Flexo 200 safer or more compliant with industry standards.

The legal theory Studney was operating under directly impacts his opinions. For example, under a strict liability standard, Studney's opinions, to be relevant, must help the trier of fact determine whether the design of the Flexo 200 present dangers not apparent to the ordinary consumer or user. Now, it is possible that Noskowiak might claim that the March 10th addendum showed that Studney's opinions, insofar as they relied on, and/or reflected prevailing safety standards, spoke to the issue of consumer expectations. Although, this possibility, if that is what Noskowiak intended, is somewhat confused by Studney's own statement that the addendum was to clarify his suggestions "regarding guarding and alternative designs for sensors." (emphasis added.) The idea of "general safety practice" referenced in both the February 6th report and March 10th addendum, may be a way of discussing consumer expectation. However, such an understanding is not evident in Studney's reports; Noskowiak has not

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forwarded this argument either. [FN6] Likewise, industry standards are surely not something "intuitively obvious." (See Kushner Aff. Ex. D., ¶ 1.) And, as the Court has already made clear, OSHA does not provide the safety or design standards for printing press manufacturers.

FN6. For that matter, Noskowiak has limited herself to one and one-half pages in her brief discussing how Studney's testimony is relevant. (Opp'n Br. at 7-8.) In that brief space, Noskowiak focuses on how Bobst has misstated the requirements of the consumer expectation test. Noskowiak does not affirmatively explain *why* Studney's reports and his testimony would be relevant.

This may be a case of Studney sinking his own ship. Though doubtful, perhaps Noskowiak could have argued that Studney's own personal experience had acquainted him with industry standards, which in turn were relevant to the issue of consumer expectations. However, this potentially viable argument was sunk when Studney started identifying those elements informing his views, e.g., OSHA standards, intuition, and vague references to available technology. Surely Noskowiak would not claim that the industry standards were so second-nature to Studney that his own self-referencing provided legitimacy for his opinions and thereby obviated the need to identify any external reference points, such as the ANSI standards.

The Court now turns to consider the relevance of Studney's claims under Noskowiak's negligence claim. Arguably, Studney's opinions are relevant by suggesting ways that the Defendants could have made the Flexo 200 safer. Presumably, Noskowiak would argue that Studney's proposed changes, modifications or improvements show that the Defendants' design was unreasonably dangerous and, therefore, they breached their duty to produce a less dangerous machine. However, even operating from this premise, Studney's opinions fail under *Daubert*'s requirement of reliability. [FN7]

FN7. Even though the parties' briefs on this matter focus only on strict liability, Noskowiak's complaint also states a claim for breach of duty or negligence-based liability. In contrast to strict liability which focuses on the product itself, negligence looks to the manufacturer's conduct. See *Friedrichs v. Huebner*, 110 Wis.2d 581, 329 N.W.2d 890, 903 (Wis.1983). (The Court is

left to wonder why, if she is in fact forwarding a negligence claim, Noskowiak has not crafted an argument that could potentially demonstrate the relevance of Studney's reports for such a theory.)

*8 Testimony is reliable if the "expert is qualified in the relevant field and ... the methodology underlying the expert's conclusions is reliable." *Masters v. Hesston Corp.*, 291 F.3d 985, 991 (7th Cir.2002). Noskowiak states that "[i]t is not clear what legal basis Defendants use to argue that an expert witness must be working in the particular field of expertise that he has opined on at the time the opinion is made upon in order to render an opinion." (Opp'n Br. at 8.) Common sense—a sometimes dangerous concept—nevertheless suggests that an "expert" keeps his knowledge level current with that field in which he claims a particularized, expert knowledge. If an expert has not been involved in a particular field for a sustained period of time and has not kept abreast of developments within that field, his claim to "expertise" may be somewhat suspect. During that time, trends and patterns may change or be updated in an industry. Though troubling, the fact that Studney may no longer be actively working in the printing field is not dispositive of the reliability of his opinions. It is clear, however, that contrary to Noskowiak's suggestions, Studney's prior experience as an expert witness does not demonstrate that now he should qualify as an expert witness. This is a non-argument. The type of expertise that Studney claims is not obtained through prior testimony in prior actions.

Much more serious are the apparent falsehoods on Studney's resumé/curriculum vitae. The Defendants point out that Studney is not, in fact, a current member of any of the professional organizations that he identifies on his resumé and has not been for approximately ten years. (Supp. Mem. at 9-10.) Noskowiak, not surprisingly does not address this point in her opposition brief. It goes without saying that a party receiving a professional's resumé may assume that it is current. Apparently, this is not the case for Studney. The Court finds the proffering of such outdated information to be misleading. However, though inexcusable, the Court recognizes that such a lapse could, in fact, have been an oversight and will not seize on that failure and here end its examination of the pending motions based on Studney's lack of credibility. The Court will generously assume that these errors were oversights.

Questions about the reliability of Studney's opinions

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extend beyond his qualifications and reach the methodology he employed. It is difficult for the Court to determine whether Studney is suggesting ways to make the Flexo 200 safer (i.e., providing alternative designs) or simply identifying inherent defects. Perhaps, both inquiries overlap significantly in the instant action. However, even if the Court found that alternative design was directly relevant in the present case (perhaps it is, to Noskowiak's negligence claim), Studney's reports and testimony fail under *Daubert* for lack of reliability. Noskowiak protests that testing is not an absolute prerequisite to the admission of expert testimony. (Opp'n Br. at 10.) In fact, Noskowiak cites *Cummins v. Lyle Indus.*, 93 F.3d 362 (7th Cir.1996), which declares that "there may be a situation in which personal experiments or observations meet the requirements of *Daubert*." However, much like the court in *Cummins*, this Court finds that Studney's opinions "clearly lend themselves to testing and substantiation by the scientific method." The lack of analysis related to prophylactic measures an employer could have taken were well summarized by the *Cummins* court when it identified those considerations that an expert witness must usually consider when advocating possible alternative designs:

*9 There are a number of considerations which must inform such a conclusion. These include, but are not limited to, the degree to which the alternative design is compatible with existing systems and circuits; the relative efficiency of the two designs; the short- and long-term maintenance costs associated with the alternative design; the ability of the purchaser to service and to maintain the alternative design; the relative cost of installing the two designs; and the effect, if any, that the alternative design would have on the price of the machine. many of these considerations are product- and manufacturer-specific, and most cannot be determined without reliable testing.

Cummins, 93 F.3d at 369.

Studney's reports do not show that he has considered any of the elements described in *Cummins*. (See Aff. B. Kushner, Ex. A, Tr. 66:5-13; 88:8-10; 156-157.) Absent any type of systematic analysis or reference to any authoritative materials, Studney's testimony regarding proposed improvements is little more than conjecture and speculation in this regard. See *Porter v. Whitehall Labs. Inc.*, 9 F.3d 607, 614 (7th Cir.1993). Furthermore, Studney's repeated assertions that certain technology was available that might have improved the Flexo 200, absent more, does not demonstrate any significant level of "intellectual rigor" that one might expect from an engineer

examining a machine. See *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999). In fact, by his own testimony, Studney acknowledged that his own employer would not consider proposed improvements such as those he proposes in this case, without first rigorously analyzing and testing the proposed change. (See Aff. B. Kushner, Ex. A, Tr. 156-157.)

Noskowiak tries to make a showing of reliability through the back door; she places a great deal of emphasis on the fact that Studney's opinions coincide with relevant ANSI standards. Noskowiak, in her opposition brief, references the ANSI standards as some form of post-hoc proof that that Studney's opinions were credible and reliably achieved. (See, e.g., Opp'n Br. at 12 ("Here, Studney's opinion meets peer review because all of Mr. Studney's opinions are the same or similar to what is required by and contained in the ANSI standards.")) If Noskowiak were arguing that Studney's knowledge of the ANSI standards pointed to a consumer expectation and led him to identify defects in the Flexo 200, such an argument might warrant admission of his testimony. However, Hoskowiak has not connected those standards in any way with the process by which Studney actually analyzed the Flexo 200. If an expert's opinion, achieved through guesswork and speculation, happens to coincide with an organized body of regulations, that does not retroactively imbue the expert's suspect procedures with reliability. To suggest as much would be to deem testimony "expert" though it amounted to little more than "unscientific speculation offered by a genuine scientist." *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 318 (7th Cir.1996).

*10 Noskowiak finally argues that "Studney's testimony would assist a jury in understanding 'nip' and 'pinch' points, the proper way to install a nip guard, the concept and science behind interlock devices, warning labels and emergency stop buttons." (Opp'n Br. at 15.) This educational information is not contained in Studney's reports and, in any event, the Court would not know how to assess the proffering of such testimony distinct from Studney's inadmissible testimony that the Court has reviewed for purposes of resolving the motions before it. If Studney's educational testimony about "interlock devices" will be similar to that found in his March 10, 2005 addendum, the Court will not allow it. [FN8] In any event, the Court cannot separate the chaff from the grain with respect to Studney's testimony. The Court does not know what testimony he would have provided to educate the jurors on the functioning of

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presses, and the Court will not guess.

FN8. Noskowiak states that "Wisconsin law requires expert testimony for product liability claims." She supports this proposition by citing to Netzel v. State Sand & Gravel, 51 Wis.2d 1, 186 N.W.2d 258 (1971). Having reviewed that case and Wisconsin case law, the Court understands that the "requirement" of expert testimony is to be undertaken on a case-by-case basis in most instances. However, *Netzel* states that expert testimony has not been required by Wisconsin courts when determining "whether a particular machine or mode of doing business was dangerous, whether certain inferences could be drawn from answers to questions on an application form, and whether defendant's negligence was a substantial factor in injuring plaintiff when defective bleachers collapsed." *Netzel*, 186 N.W.2d at 261-62.

Noskowiak has failed to carry her burden of showing that Studney's testimony is admissible under *Daubert* and the Rules of Evidence. The Court will not manufacture arguments on her behalf and, her response to the Defendants' brief has done little to dispel the Court's concerns. There is more to this inquiry, however.

On June 14, 2005, Bobst filed an expedited, non-dispositive motion to strike a report by Studney submitted on May 10, 2005 and a June 10, 2005 declaration by him. Bobst argues that these submissions are well-past the deadline for filing expert reports and, further, there is no justification for their tardiness. Noskowiak responds by saying that these submissions were made in response to the Defendants' objections and "to alleviate any concerns the Court (and Defendants) might have about Studney's qualifications as an expert." (Pl.'s Mem. in Opp'n to Defs.' Mot. to Strike the Decl. and Am. Report of M. Studney [Pl.'s Memo in Opp'n] at 1.)

The Court does not understand Noskowiak's reasoning. She states that "[a]fter an extensive deposition examination ..., Studney reviewed the Standards (ANSI) and determined that his initial report exactly matched what the Standards require." (*Id.* at 1.) This statement seems to miss the point. The salient issue is not whether Studney's opinions fortuitously match industry standards; the issue is how Studney formed his opinion and whether that opinion will assist the trier of fact. Noskowiak also

states that "[t]he key for this Court to remember is that Studney's opinion that the Machine is defective has not changed-he still believes the Machine is defective for the same reasons previously identified in his initial report." (*Id.*) While this may be true, it does little to help Noskowiak since the Court has already found that Studney's opinions, as identified in his first two reports, lacked both relevance and reliability.

Nevertheless, Noskowiak invokes Rule 26 of the Federal Rules of Civil Procedure for the proposition that the rules contemplate additions to, and supplementing of, expert reports. (*Id.* at 2.) The Defendants argue that Studney's latest offerings are new opinions. (See Defs.' R. 7.4 Expedited Non-Dispositive Mot. to Strike May 10, 2005 Expert Report and June 10, 2005 Decl. of M. Studney [Defs.' 7.4 Mot.] ¶ 4.) Alternatively, the Defendants state that, under the rules governing supplementation, Studney's new offerings must fail as well. Noskowiak claims that Studney is only supplementing his original report insofar as he is proffering information further clarifying his original, unchanged opinion. Noskowiak counters that the Defendants cannot claim "surprise" because the ANSI standards were available to them all along and, in any event, they will not be prejudiced by allowing Studney to opine on those standards. Noskowiak's response to the Defendants' 7.4 motion indicates that she considers Studney's latest supplement to be just that, a supplement and not a new opinion.

*11 Based on the Court's previous discussion, Studney's May 10th supplement and June 10th declaration cannot be supplements. At this point, there is no original opinion to supplement; it has been stricken. The Court, in effect, would have to treat Studney's most recent supplement and declaration as new opinions rendered outside the time prescribed by this Court and Rule 26. Noskowiak has not moved the Court to entertain such a new opinion and that issue has not been briefed by the parties.

NOW, THEREFORE, BASED ON THE FOREGOING, IT IS HEREBY ORDERED THAT:

The Defendants' Motion in Limine to Exclude the Testimony of Michael Studney (Docket No. 45) is GRANTED.

The Defendants' Rule 7.4 Expedited Non-Dispositive Motion to Strike May 10, 2005 Expert Report and June 10, 2005 Declaration of Michael Studney (Docket No. 61) is GRANTED.

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TAB 7

Peter J. Patchin, MAI

Valuation of Contaminated Properties

Properties seriously affected by toxic contamination are usually unmarketable. Those less seriously affected are subject to at least reduced marketability. The amount of market-value loss varies according to the nature and extent of the contamination. Three scenarios are presented to illustrate methods for appraising contaminated properties. Widely varying values result because of circumstances unique to individual properties.

Toxic contamination has a major impact on the values of the properties it affects. The costs of cleanup, along with liability to the public and stigma, often eliminate or significantly reduce a property's value.

Until recently, very few buyers, sellers, lenders, or appraisers gave much thought to the impact of toxic contaminants on a property's value. Until about 15 years ago, many industries simply disposed of hazardous wastes on-site. There was little, if any, concern for the fact that ecologic and economic time bombs were being created.

The enactment of the so-called "superfund" or Comprehensive

Environmental Response Compensation and Liability Act of 1980 (CERCLA)¹ by the federal government and similar legislation passed by various state governments have had a dramatic effect on both the use and valuation of properties that are contaminated or subject to contamination. The basic provisions of these laws call for the following:

1. The party who placed the contamination in the ground must bear the costs of cleanup as directed by either the federal or state agency having jurisdiction.
2. If the parties originally responsible for the contamina-

1. 42 U.S.C. Sec. 9601-9657 (1982).

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Federal and state laws have forced appraisers to develop an awareness of the environmental and economic effects of toxic contamination. Techniques for valuing contaminated properties are now being developed.

tion are no longer financially solvent or no longer exist, the responsibility falls on successors in the chain of title; most likely, the existing or present property owner. A leading court case held that a present owner who had no part in placing the contamination on the site was liable for the costs of cleanup.²

3. Other parties associated with the title to a contaminated property may also be held responsible for the costs of cleanup. A recent court case held that a bank that foreclosed on a property must pay for the costs of cleanup because previous owners were judgment proof (financially insolvent or no longer in existence).³ Consequently, the bank was held liable for cleanup costs in the aggregate amount of \$460,000, when the total amount of the loan foreclosed was only \$335,000.

In October 1986, CERCLA was amended to clarify the intent of Congress that under certain circumstances one who acquires property without knowledge or reason to know of contamination cannot be held liable for hazardous wastes. This amendment established standards of due diligence for prospective property buyers. The new owner must demonstrate that he or she had no reason to know that the property was contaminated and "appropriate inquiry" was made into the background of the property. Because National Priority List properties and less-contaminated properties can be clearly identified through public information disseminated by federal and state en-

vironmental protection agencies (EPAs), prospective buyers are relatively well protected against purchasing properties already evaluated as contaminated. However, if a buyer takes a title with the knowledge that the property is contaminated, he or she is subject to the inherent liabilities. The intent of the amendment to CERCLA is to protect innocent buyers in those cases in which no contamination is detected at the time of the sale. The amendment may help buyers, but it does not help properties that have already been evaluated as contaminated.

As a result of the superfund laws and the body of case law that is developing around these laws, buyers, sellers, and lenders are developing a new awareness of both the environmental and economic effects of toxic or hazardous waste contamination. Many informed corporate buyers now require a diligent inquiry into the possibility of contamination for each property they purchase. Many of the larger lenders now have a standard clause in their loan commitment forms that nullifies the loan commitment if toxic contamination is discovered.

When toxic contamination is found and a cleanup mandated by federal or state authorities, conflicts frequently arise between existing and previous owners as to who pays the bill. Once a property has been cleaned up to the extent physically possible, the questions of contingent future liability to the public and stigma must be dealt with.

The most seriously contaminated properties are graded for their toxicity and danger to the public by the U.S. EPA. Properties that score 28.5 or higher on the Hazardous Ranking System (HRS) test

2. *State of New York v. Shore Realty Corp.*, 759 F.2d 1032 (2d. Cir. 1985).

3. *United States v. Maryland Bank and Trust Co.*, 16 E.L.R. 20557 (D. Md. April 9, 1986).

are placed on the National Priority List in the Federal Register. This list of the most toxic-contaminated properties is commonly known as the "Superfund List." At the time this article was written, there were 734 such properties on the National Priority List. The number grows each time the list is published, which is every six months. Obviously these properties must be entered into a cleanup program immediately to protect public safety. I have encountered several instances in which the costs of cleanup have far exceeded the fair-market value of the property without contamination.

Thousands of other properties are contaminated to a lesser extent, and while not on the superfund list are still supervised and monitored by state and federal agencies. Quite frequently these less-contaminated properties are not required to clean up, at least for the present. Government agencies reserve judgment until further information is gathered. If it is determined that the property will be hazardous at a later time, a cleanup will then be ordered. Consequently, the threat of cleanup costs hangs over the owners of these properties like a dark cloud.

At this point one might ask what these contaminated properties are worth, and how one goes about such an valuation.

The development of techniques for valuing contaminated properties is still in its infancy. I have completed 10 such appraisals. The purpose of this article is to share the knowledge I have gained thus far, as well as the valuation theories that I have developed.

When I accepted my first assignment to value a contaminated property, some four years ago, I approached it with the idea of discounting the value of the property before considering the contamination. This notion was quickly dis-

pelled when I found that there was little, if any, market data on contaminated properties. The reasons for this lack of market data became evident when I interviewed corporate real estate personnel who had dealt with the problem. These individuals were practically unanimous in voicing the opinion that a seriously contaminated property will not sell at any price. More than one stated the old adage "don't buy trouble." Others cited the principle of substitution wherein it would not be wise to purchase a contaminated property when so many non-contaminated substitutes are readily available. One manager of a large corporate real estate department stated that his board of directors had made a resolution never to sell a group of properties in which toxic contamination is even suspected, to eliminate as much contingent future liability to the public as possible.

The first thing I concluded from this series of interviews was that seriously contaminated properties are generally unmarketable.

The unmarketability of a superfund list property is dramatically illustrated in a case I recently handled. A large industrial property had been listed for sale for over three years. During that period six written purchase offers had been received. All but one offer was rescinded on disclosure of the contamination. The one remaining offer is that of the local county government which is seeking to buy the property for less than one quarter of the asking price. This buyer has the capability of solving the indemnity problems for the future chain of title.

The courts have explicitly recognized the unmarketability of contaminated property. One court decision stated that "it seems beyond dispute that designation of property as having a problem serious enough to warrant E.P.A. &

Discounting the value of property before consideration of contamination is not the way to value contaminated property.

In general, seriously contaminated properties are unmarketable. Mildly contaminated properties have limited marketability.

Superfund clean up will mark that property as an unmarketable pariah for years to come."⁴

Such a decision leads to a mixed bag of consequences for valuation. For example, only a moderate decline in value may occur for a contaminated property that can still be utilized under its originally intended use. On the other hand, a property that can no longer be utilized for its originally intended use may be subject to total loss of value.

After interviewing corporate real estate personnel who had experience with contaminated properties, I interviewed buyers and sellers of properties in which toxic contamination was relatively mild or perhaps just suspected, but not yet proven. The market's attitude towards these properties was something less than total unmarketability; however, the overall obvious attitude was one of extreme caution. For example, a large city had an otherwise very desirable 40-acre tract of industrial land for sale. The site had been previously used by the city waterworks department for disposal of filtrate sediments from its water treatment plant. There was no proof that these contaminants were in any way toxic. Nonetheless, the market of buyers was extremely wary on the basis that the site could be designated as hazardous in the future. Most local appraisers were in agreement that the site was worth no less than \$2.00 per square foot if not contaminated. After several years of effort, the city finally sold the site for \$1.00 per square foot. In addition, the city had to include an indemnity of up to \$800,000 for contingent future liabilities. The indemnity was of greater importance in making the deal than the apparent discount in value.

I found a limited amount of ad-

ditional market data on mildly contaminated properties. In almost every case, the buyer insisted that the seller bear the cleanup costs, as well as some sort of indemnity for future liabilities.

On the basis of the information I obtained, I concluded that property that is mildly contaminated or suspected of contamination has limited marketability. This marketability is limited by cleanup costs, availability of an indemnity, higher equity yield demands to compensate for risk, and possibly higher financing costs because fewer lenders are willing to consider the property.

INDEMNITIES

Because securing an indemnity is often a key step in marketing a contaminated property, the subject of indemnities must be included in any discussion of contaminated property values.

An indemnity, in the case of contaminated properties, is a financial guarantee against future claims and costs arising from contamination. To be effective, an indemnity must usually be issued by a financially secure organization whose performance, in the event of a claim, can be guaranteed many years into the future. Consequently, very few sellers of contaminated properties have the requisites to issue an indemnity that will be acceptable in the marketplace. Even the largest business organizations can experience financial difficulties and are subject to the possibility of failure. An indemnity offered by an AAA credit corporation may look good today, but can become utterly worthless if the corporation becomes insolvent or goes out of business 20 years from now.

Indemnities cannot be obtained for even mildly contaminated properties.

4. *SCA Services of Indiana, Inc. v. Thomas*, 634 F. Supp. 1355 (N.D. Ind. 1986) at 1364.

Generally speaking, the only indemnities acceptable in the market are those underwritten by large insurance or bonding companies; or in some instances, underwritten as a general obligation of large governmental organizations. In most private transactions it is necessary to secure an indemnity insurance policy or bond.

Like so many areas of casualty insurance underwriting today, indemnity insurance for contaminated property is frequently difficult to obtain. When such coverage is obtainable, it is almost never available on properties that have a proven record of contamination. A contaminated property can be cleaned up to the best levels technology will allow, and it will still be impossible to obtain an indemnity policy.

My experience in recent cases has shown that an indemnity policy against future liabilities to the public cannot be obtained for even mildly contaminated properties. However, it is possible to obtain a bond that insures payment of future cleanup costs if ordered by the appropriate authorities. In these situations, the insuring company carefully reviews engineering reports on the property before issuing the bond.

In my experience many sales of contaminated property have involved an indemnity issued by a large governmental organization that has taken title sometime prior to the sale. Fairly large municipalities acquire a contaminated property and then grant an indemnity to aid in getting the property back into useful production in the community. More of this type of urban renewal may be seen in the future.

FINANCING

Lenders are understandably wary of contaminated properties. If a bond insuring cleanup costs can be

secured, as is the case for some mildly contaminated properties, a major obstacle has been overcome. However, some lenders refuse to advance funds on such a property, bond or not, strictly as a matter of policy. Usually a limited number of lenders can be found for mildly contaminated sites.

There is virtually no chance of obtaining mortgage financing for a seriously contaminated property. Several lenders that I surveyed stated that they were still formulating their policies on contaminated properties.

CAUSES OF MARKET-VALUE LOSS

In my experience with contaminated properties, the causes of market-value loss have generally fallen under three broad categories:

1. Costs of cleanup
2. Liability to the public
3. Stigma after cleanup

Costs of cleanup

Cleanup procedures are usually specified by either federal or state EPAs. At which time the owner of the property or the EPA, if the owner is unable or unwilling, retains the services of one or more engineering firms to explore cleanup methods and costs. Frequently more than one way is found to do the job. In some cases, the EPA will give conditional approval to a less expensive method with the understanding that if it fails, the more expensive method must be implemented. In one case that I appraised, the total property value before contamination was about \$20 million. The least costly method for total removal of the contaminants was \$26 million, thereby wiping out the value of a very large industrial facility. As a compromise, the state EPA allowed a containment wall to be

constructed around the contaminated area at a cost of about \$4 million. However, the state EPA withheld final approval of the containment wall with the understanding that if it was ever found to be inadequate, the more expensive method of total removal would have to be implemented.

One misconception that some persons have with respect to cleanup costs is that the superfund will pay for them, thus relieving innocent present owners of this responsibility. Superfund monies are to be expended only for those cleanups in which no one financially capable of covering them can be found, and the cleanup must proceed on a timely basis to protect public interests.

In the case of properties with moderate or mild contamination, the EPA may find no present threat to public health. The cleanup may be deferred until such time as new information indicates a public hazard. Thus the mildly contaminated property may have no immediate cleanup costs, with contingent liability for future costs.

A discussion of cleanup costs is incomplete without mentioning monitoring costs. Monitoring costs usually involve the maintenance of test wells and the analysis of materials drawn from them. The annual costs of these services must be paid by those responsible for the property. In my experience, monitoring costs have ranged from a low of \$1,500 to a high of \$30,000 per year.

Liability to the public

Liability to the public as a cause of property-value loss to contaminated properties stems from the possibility of the property owner

having to defend lawsuits because of the release of toxic contaminants onto surrounding properties. In cases in which the contamination has penetrated the water table used for the public drinking supply, these types of lawsuits are bound to occur. Publicity surrounding the discovery of contamination on a property and the EPA enforcement of cleanup measures further exposes the owners to legal actions from the public.

In most cases I have observed, no lawsuits were filed against the property owner. The potential threat of such legal exposure is usually a sufficient deterrent when considering purchase of the property.

Stigma after cleanup

One of the most difficult concepts to understand when considering the effect of contamination on property value is that a physical cleanup does not usually eliminate the value loss resulting from stigma. Obviously this cause of market-value loss is related to the issue of liability to the public.

I have observed several cases in which physical cleanups were accomplished to the full limits of available technology. The toxic contaminants were removed until their presence tested under EPA minimums. Despite cleanup to the satisfaction of the EPA, potential buyers remained reluctant. This reluctance has to do with all the risk and financing problems previously discussed. The result is that even a cleaned-up property may suffer from reduced marketability.

In one case in Minnesota, a jury awarded \$1.5 million for reduced property value after the cleanup costs had been taken into consideration.⁵

5. *Onan Corporation v. Boise Cascade Corp.*, (D. Minn., 1984)

In another recently concluded case, a jury awarded \$2.6 million to a landowner for personal injuries, loss in property value, and punitive damages.⁶ On review, the presiding judge set aside the jury award except for the loss in property value. An important factor was that the defendant had already paid for a complete cleanup of the property.

VALUATION TECHNIQUES

As previously stated, the tendency of most appraisers in valuing contaminated property is to approach the problem on the basis of discounting the value before contamination. Such a method is difficult, if not impossible, to support with market data. What market research will disclose is that contaminated properties suffer from varying degrees of reduced marketability or total unmarketability.

In some valuations of contaminated property that I have observed, the appraiser has concluded that the property is unmarketable. From this conclusion, he or she jumped to a second conclusion that the property is totally worthless. Such a value conclusion is unreasonable when the property is still being utilized by its present owner for some useful purpose. It is even more unreasonable when the property is still being utilized for its originally intended purpose.

Previously in this discussion I have reviewed data on increased risks of ownership, difficulties in financing, and so forth. A valuation tool that utilizes all of these factors is the capitalization rate. Consequently, with its mortgage-equity measurement techniques the capitalization rate appears to offer

a means of valuing contaminated property.

In reviewing the basic requirements of the Ellwood capitalization method, one can see that the capitalization rate is dependent on three major factors:

1. Equity yield rate
2. Mortgage terms available
3. Anticipated future appreciation or depreciation

If a property is no longer marketable, anticipation of appreciation or depreciation is not applicable. If a property cannot be mortgaged, there is no leverage available to the investor in terms of borrowing capital. Thus, in the case of an unmarketable property, the primary component of the capitalization rate is equity yield.

For properties with reduced marketability, the three components of the capitalization rate remain intact but are altered because of changing risk factors as perceived by both the investor and lender. Consequently, the capitalization rate for such properties can be adjusted to suit the circumstances at hand, some of which would be as follows:

1. Extent and nature of contamination—resulting in unmarketability or reduced marketability
2. Type of property involved—industrial, commercial, office, special purpose, and so forth
3. Presence of assumable financing
4. Demand for alternative uses

The following three scenarios illustrate the various situations that an appraiser might encounter in valuing contaminated property.

The capitalization rate appears to be a means of valuing contaminated property.

6. *Woyke v. Tonka Corporation*, (D. Minn. 1987)

A contaminated property that is utilized for its originally intended use still has "value in use," even though it cannot be sold or mortgaged.

Scenario one

An industrial property is severely contaminated with toxic substances and is regarded as unmarketable. The original owner is continuing to utilize the property for its originally intended use and plans to do so into the foreseeable future. The property has a substantial "value in use" to the existing owner, even though it can no longer be sold or mortgaged.

In valuing the property before the contamination, the following information was obtained:

Market net rental for present use	\$100,000 per year
Equity yield for similar properties	17%
Mortgage obtainable	11.25% interest for 70% of property value with a 25-year amortization, 10-year balloon
Indicated market appreciation	3% per year
Estimated cleanup costs presently ordered by the local EPA	\$200,000
Capitalization rate using the Ellwood method	10%
The indicated before-value	
$\frac{\text{Net income}}{\text{Cap rate}} =$	
$\frac{\$100,000}{.10} =$	\$1,000,000

The issuing of a bond for cleanup costs for a mildly contaminated property diminishes the concerns of lenders.

After consideration of the contamination, the property is evaluated as unmarketable and unable to be mortgaged, leaving the equity yield as the primary component of the capitalization rate. After contamination, the equity yield not only bears its normal market rate (17% in this case), but an additional risk factor for contingent future liabilities. An illiquidity factor for lack

of marketability should also be considered. Thus, a 20% equity yield is designated after the contamination.⁷ This equity yield then becomes the capitalization rate, and the after-value may be calculated as follows:

$$\frac{\text{Net income } \$100,000}{\text{Cap rate } .20} = \$500,000$$

Summary:

Before-value	\$1,000,000
After-value	<u>\$ 500,000</u>
Indicated damages	
Without cleanup costs	\$ 500,000
Less cleanup costs	<u>\$ 200,000</u>
Property value after contamination	\$ 300,000

Scenario 2

This scenario involves the same property and information, except that the contamination is mild enough to allow limited marketability. Cleanup costs have been estimated by an engineering study. However, the EPA has not required a cleanup because presently the contamination is not regarded as a public threat; a cleanup could be enforced at a later date. Currently the EPA is requiring only that the owners pay for the \$1,500 per-year monitoring cost. A bond can be obtained to pay for the costs of a cleanup, if one is enforced, at a rate of 2% per year of the estimated costs, which are \$200,000. The issuing of a bond removes many of the hazards perceived by lenders, and a limited number of lenders will consider the property at a 12% interest rate; the balance of the terms are the same as in the first scenario. The equity yield will demand an extra risk factor, but not as high as 20% as in the previous scenario. An 18% equity yield is selected.

7. The assignment of an extra risk factor to the equity yield is a subject in itself. Considering the circumstances, the 20% rate in the example is conservative.

When the above data are incorporated into the Ellwood method, a capitalization rate of 10.9% is indicated.

The after-contamination value of the property can be calculated as follows:

Net income before contamination less		\$100,000
Monitoring costs	\$1,500	
Cost of cleanup bond \$200,000 × 2% =	<u>\$4,000</u>	
		\$ 5,500
Net income after contamination		\$ 94,500
Indicated capitalization rate—10.9%		
Net income		
Cap rate		
<u>\$94,500</u>		
.109		\$867,000

Summary:

Before-value (same as in scenario one)	\$1,000,000
After-value	<u>\$ 867,000</u>
Indicated damages including consideration of cleanup costs	\$ 133,000

The contrast between the results in scenarios one and two for the same property with the same value before contamination is startling. The only differences are the nature and extent of the contamination. It is obvious that the valuation of contaminated property cannot be approached in the same manner in each instance. The factors involved in each situation must be carefully analyzed before the exact valuation method can be selected.

The wide difference in values found in the two scenarios should clearly demonstrate the dangers of simply selecting a discount percentage when valuing contaminated property.

Scenario three

In some cases the presence of toxic contamination may force a change in the property's highest and best use. A 10-acre parcel of vacant land

is severely contaminated with toxic substances. Before consideration of the contamination, the site was regarded to be ripe for small office development because it has excellent highway access. Comparable land sales in the neighborhood for the same purpose indicate a value of about \$100,000 per acre.

Because the contamination is severe enough to render the property unmarketable, its subdivision under its apparent highest and best use is no longer possible. One of the few purposes for which the site could be used after contamination, and that would yield the highest value would be open storage, such as an industrial yard. Comparable sales of land used for this purpose indicate a value of about \$40,000 per acre.

The state EPA has ordered an immediate cleanup to protect public interests. Because of technological limitations, the site will still have a high degree of contamination after cleanup. The engineering report estimates cleanup costs at \$300,000.

The value analysis would proceed as follows:

Before contamination	
10 acres at	
\$100,000 per acre =	\$1,000,000
After contamination	
10 acres at	
\$40,000 per acre =	\$400,000
less costs of cleanup	<u>\$300,000</u>
	\$ 100,000
Indicated damages due to contamination	\$ 900,000

CONCLUSION

The development of valuation techniques for contaminated property is still in its infancy. The appraisal profession and the public are just now becoming aware of the seriousness of the problem. I ex-

Toxic contamination can force a change in a property's highest and best use.

pect that with an increase in appraisal and case law experience in this field, far more comprehensive valuation techniques will be developed than presented here. There is no quick fix to appraising con-

taminated property. The results are very dependent on individual circumstances. The extent and nature of the contamination are the crucial factors in estimating the after-value of a contaminated property.

TAB 8

Peter J. Patchin, MAI, ASA, CRE

Contaminated Properties— Stigma Revisited

This article is intended as a sequel to the author's original article, "Valuation of Contaminated Properties," which appeared in the January 1988 issue of *The Appraisal Journal*. In that article, the issue of the stigma often attached to contaminated properties, even after they have been cleaned up, was raised. Stigma may be broadly defined as a loss in value beyond the cost to cure the contamination itself. Stigma has a wide variety of causes, and market data are now being developed that will help appraisers better understand the nature of this problem.

In "Valuation of Contaminated Properties," which appeared in the January 1988 issue of *The Appraisal Journal*, I explored the potential negative effect on market value of the stigma attached to contaminated properties, after all cleanup costs and related tangible factors have been considered. The term "stigma" was used to represent a variety of intangible factors from possible public liability and fear of additional health hazards to the simple fear of the unknown. In the more than two years since this article appeared, I have been repeatedly questioned on the issue of stigma. Many who inquired either stated directly or implied that perhaps the concept of stigma was a figment of this writer's imagination.

With the passage of time, however, a greater awareness of the extreme threat toxic contamination poses to real estate values has begun to inform the market. Indeed, a recent environmental publication estimated that the aggregate loss could well exceed 10% of the total U.S. real estate value.¹ With increased market awareness, data are now being developed that conclusively prove that in many cases stigma does indeed exist.

For example, in the 1990 sale of an industrial property formerly owned by a Fortune 500 company, serious soil contamination had been discovered in 1983. The large corporate owner signed a consent order and the cleanup was begun. Seven years later, the local envi-

1. *Focus—The Bulletin of Environmental Risk Evaluation And Management*, (Columbus, Ohio: Hazardous Materials Institute, March 30, 1990): 6.

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ronmental protection agency considered the cleanup complete. It is important to note that if any future cleanup were deemed necessary the corporate owner would be held responsible for such costs. Another Fortune 500 company was an intermediate holder of title in this property and stood second in line to pay for cleanup costs if the first owner failed to pay for any reason. Consequently, liability for present and future cleanup costs simply was not an issue in the sale of this property. Any discount from its unimpaired value would thus be attributable strictly to the stigma factor. Several local appraisers and the assessor agreed that the unimpaired value of the property was about \$2,000,000. After an 8-month sales effort, the property was sold for \$95,000 cash. The indicated discount, caused solely by the effect of stigma, was over 95%.

In this article, specific stigma-related market data will be discussed, and some of the many components of this phenomenon will be identified.

One problem that many appraisers have in dealing with the notion of stigma is their expectation that there should be a rational or logical cause for any loss in value. Appraisers must recognize that there are many irrational factors in the marketplace. If there is a general perception in the market that a hazard from contamination exists, a value loss could result whether the market perception is rational or not. An appraiser's job is simply to interpret market reactions in terms of value, not to establish whether that market reaction is rational. Property owners may be certain that there is a greater chance of being struck by lightning than of being harmed by toxic contami-

nation after a cleanup has been completed, and on a technical basis these owners are probably correct. But if the market does not reflect this awareness, the stigma still exists.

It may be helpful to think of stigma as a negative intangible. This intangible is likely to be caused by one or a combination of the following factors.

FEAR OF HIDDEN CLEANUP COSTS

If a cleanup has not yet begun, it is difficult to assure buyers that estimated cleanup costs are adequate. As David Houston points out, "If the estimated cleanup cost is 'X', . . . the typical buyer will deduct '2X' from his purchase offer."² For this reason clients should be advised to complete all known cleanup costs before attempting to market the property.

Even after the cleanup has been completed and a certification has been obtained from an environmental expert that the property is now in compliance, resistance may still be encountered in the marketplace. In some cases this resistance is well founded. For example, a contaminated site was restored and received a "clean bill of health" in 1983. In 1989, however, further contamination from the same source was discovered and the cleanup process was repeated.

THE TROUBLE FACTOR

Many comparable sales exist in which the costs of correction are well defined, yet the decline in market value is shown as a fixed-dollar amount in addition to the costs to cure. This is particularly true in cases of single-family res-

2. American Society of Real Estate Counselors, *Seminar on Toxic Contamination in Real Estate*, (November 1989), statement by speaker—David Houston, CRE.

idental properties, when contamination may dictate such improvements as the renovation or demolition of a building, or the drilling of a new water well. When these properties sell before a cure is undertaken, the difference between the unimpaired value and the actual selling price may be substantially greater than the cost to cure. Analysis of this disparity typically indicates that in addition to the costs to cure, such approximate amounts as \$10,000 or \$20,000 are often deducted. The rationale for these deductions is that although buyers are aware of the costs to cure, they feel they should also be compensated monetarily for the trouble of making the necessary improvement.

FEAR OF PUBLIC LIABILITY

In many cases, stigma has little relationship to cleanup costs. The property may have been cleaned up to the extent that present-day technology allows, and a well-financed indemnity for the benefit of future owners may have been offered to pay for any future cleanup costs. Yet the property still may not sell.

To illustrate this point, in 1989 a four-year-old, hi-tech industrial building and site had received its clean bill of health from an environmental consultant. The original owner and contaminator of the site possessed a well-endowed environmental protection fund that had paid for the original cleanup and stood ready to pay for any further cleanup costs. In addition, the large city in which the property was located had agreed to pay for cleanup costs not covered by the original owner's environmental protection fund. In effect, the property car-

ried a double indemnity with regard to cleanup costs. The city also offered to finance the sale of the property under one of its bonding programs. After being exposed on the market for less than six months the property attracted an offer from a Fortune 500 company that was within 7% of its unimpaired appraised value. A few days before closing the buyers backed out of the deal because of the site's contamination history, stating that they "just felt compelled to consider other alternatives."³

This property continues to be offered on the market and has not yet attracted further offers. The principle of substitution thus comes into play as buyers seek an equally desirable substitute property without the contamination problem.

LACK OF MORTGAGEABILITY

The inability to obtain financing, either for the sale of a property or its future development, is one of the most frequent causes of stigma-related value loss. Since January 1988, lenders have become increasingly aware of the risks of mortgaging contaminated properties. The vast majority of lenders will not even consider a property until it has been cleaned up and tests within required limits. This reluctance to lend applies not only to superfund sites, but to sites with comparatively low levels of contamination. The net result of the loss of mortgageability is that the property is held off the market until the cure has been accomplished. Time thus becomes an important factor in the measurement of value loss.

In the case of development lands, the value loss caused by a long

The inability to obtain financing, either for the sale of a property or its future development, is one of the most frequent causes of stigma-related value loss.

3. "3M Corporation," *Minneapolis Star Tribune*, (November 30, 1989): 7D.

waiting period off the market is particularly apparent. For example, a client owns an 80-acre parcel of land ready for development. In the past two years he has signed two purchase agreements, both for approximately \$3,000,000 cash. Both purchase agreements failed when it was disclosed that an electronics plant across the road is responsible for a plume of contaminated ground water that extends under 2 of the 80 acres. Both purchasers declined to close the sale on the basis that they could not receive financing for their development projects because of the contamination. According to environmental consultants who have thoroughly studied this spill, to make the site conform to acceptable standards would take about three years (not a major problem as contamination cures go). Unfortunately, the contamination has already kept the property off the market for two years and remediation of the site has not yet begun, while litigation proceeds. Consequently, the property will be off the market for five years even if remediation were to start immediately (two years already elapsed, plus three years remediation). If a nominal 12% yield rate is assumed, the loss in value caused by excess time delays may be illustrated as follows:

FOR ENTRY	
Present worth if remediation starts as soon as possible $\$3,000,000 \times .7118$ (3-year 12% present worth factor) =	\$2,135,000
Present worth if remediation starts 2 years later $\$3,000,000 \times .5674$ (5-year 12% present worth factor) =	\$1,702,000
Difference	\$ 433,000

Thus, by their delaying tactics the defendants have created an additional \$433,000 liability for them-

selves. The defendants' legal counsel should weigh this type of value loss when considering their strategy.

In the preceding example, the stigma loss caused by a three-year cleanup period is \$865,000 (\$3,000,000 less \$2,135,000). This figure does not account for cleanup costs, which are a separate issue.

RESIDENTIAL VERSUS COMMERCIAL

Data are beginning to reveal that in some instances, the market reaction to contamination differs according to whether the property is residential or commercial. Several cases were examined in which residential drinking water wells were contaminated by nearby landfills or industries. The comparables studied contained, in aggregate, several hundred single-family residential properties, and consequently the results appear to be meaningful. The market reaction in these cases may be briefly summarized as follows.

- Sharp drops in value occur during the first year or two following disclosure of contamination.
- Stigma begins to disappear when local officials announce plans for an alternative water supply (e.g., municipal water lines are extended, new wells are drilled for affected properties, carbon filters are installed).
- Once the cure is actually in place, the stigma seems to disappear altogether. The one exception may be when residences have carbon filters and no promise of an alternative water supply. This situation appears to cause a slight stigma to remain.
- A survey of lenders indicates

little, if any, discrimination against such properties.

HOW CLEAN IS CLEAN?

The major issue now confronting those working with contaminated properties is: How clean must the site become to be marketable once again? Many appraisers and clients seem to be under the impression that a government agency makes this judgment. Such is not the case. Both the federal and state environmental protection agencies have the protection of the public health as their primary objective. It is not their job to declare any particular site clean so that it may become marketable. A clean bill of health for a site must be obtained from a private environmental assessment professional rather than a public agency. Such persons have widely varying opinions, as do appraisers. Frequently, the only way to settle these differences of opinion is to litigate—just as is the case when appraisers have differences. Consequently, a clean bill of health may not be perceived as such by either the market or the courts.

As increasing numbers of properties become unmarketable, the comprehensive plans of urban areas are likely to be disrupted. Already many cities have a patchwork of these unmarketable properties covering their maps. As a result, pressure will mount to compel government agencies to decide: How clean is clean?

A major question facing environmental experts is thus which standard is applicable when judging whether a property is clean enough. For instance, if a drinking water supply is threatened, the U.S. Environmental Protection Agency (EPA) drinking water standards apply. If skin contact is the only hazard, however, the Occupational Health & Safety Administration (OSHA) standards apply.

For example, in the case of a gasoline spill (a common occurrence), the maximum allowable limits for benzene are indicated as follows:

EPA standard:	5 parts per billion
OSHA standard:	1,000 parts per billion

Obviously, the costs to reach the level of the EPA standard are far higher than to reach the OSHA standard. The difference in the costs to cure may well decide the property's future marketability. Cleanups are often ordered to meet the EPA drinking water standards when drinking water supply does not appear to be involved. While such professional judgments must be accepted, few environmental assessment experts seem to give much consideration to the economic consequences of their actions.

A simplified example of the consequences of the cleanup standard on property value is as follows:

Commercial Site:	
Unimpaired market value	\$3.00 per sq. ft.
Costs of cleanup—OSHA standard	\$1.00 per sq. ft.
Costs of cleanup—EPA standard	\$6.00 per sq. ft.

Clearly, if the EPA standard is considered most appropriate, the property is likely to become unmarketable, unless the contaminator or someone in the chain of title can be compelled to pay for the cleanup. As long as the property does not present an immediate public health threat, the cleanup is frequently deferred and the property becomes another unmarketable blot on the landscape.

Such problems are becoming far more pervasive. In time, the situation may overwhelm many urban areas. Eventually, someone in au-

A clean bill of health for a site must be obtained from a private environmental assessment professional rather than a public agency.

thority is going to have to define the limits of an acceptable standard.

CONCLUSION

The market has become significantly more aware of the impact of toxic contamination on real estate values. With this awareness, market data are being developed that either confirm or deny the presence of stigma in a particular situation. Appraisers will seldom find

this type of market data in recorded transactions and it may be necessary to conduct extensive research to disclose the relevant information. The reasons for sales that did not go through can be more important than the sales that actually did occur. In the majority of cases, appraisers clearly cannot do a thorough job by merely deducting the cost to cure from a property's unimpaired value.